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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,723	07/17/2003	Bernd Bienek	112740-846	3883

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Bell, Boyd & Lloyd LLC
P.O. Box 1135
Chicago, IL 60690-1135

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT PAPER NUMBER

2817

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,723

Applicant(s)

BIENEK ET AL.

Examiner

Michael B. Shingleton

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

Three

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/04/2005
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-4, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Budnik 6,043,707 (Budnik) of record.

Figures 3, 5 and 8 and the relevant text of Budnik of record disclose a method for operating a transmission amplifier 6. Note that the amplifier of Budnik is a power amplifier and is applied to the antenna that is unmarked in Figure 8. Should a "considerable change in operating parameters occur" i.e. the envelope amplitude changes from high to low, then the amplifier 6 is "feed" with a bias supply voltage that is of such a high magnitude during low envelope amplitudes that the "amplifier is operating in a traditional linear mode" (See the paragraph bridging columns 6 and 7). Should the envelope amplitude changes from low to high, then the bias supply voltage is changed to a "non-linear class of operation" (See column 7, around line 25). As is well known this means that the bias supply voltage is reduced. The predistortion unit 1 with its associated feedback from the transmission amplifier and the feedback that is applied to the elements like 2 and 3, clearly compensates for data values in the input data stream so as to predistort the input signal so as to make the amplifier's response more linear. As is clear from the text noted above the "measurement values for the quality of compensation" i.e. where the envelope magnitude is low or high is used on a continuous basis to control the bias supply voltage. Note the feedback as noted above feedbacks the output of the amplifier 6 and must form a comparison, difference values so as to determine whether or not the envelope magnitude is low or high. The unmarked element "driver" forms an adaptive regulator that passes the measurement values so that the bias voltage can be changed as noted above. Note that difference values between the data values, i.e. these signals are feedback via path 209 and are used as measurement values.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

Art Unit: 2817

matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 8 and 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budnik 6,043,707 (Budnik) of record.

All the same reasoning as applied in the rejection of claims 1-4 and 6 above and the following: Clearly, the predistorter of Budnik inputs the data values of the input data stream and the fed-back data values via path 209. While it is clear that some sort of comparison is done on at least one of these signals to determine the envelope magnitude, Budnik is silent on whether both of these values are used to determine the envelope value. It is important to note that in the other feedback path that is connected to element 52, the envelope values are detected via both the input data stream and the fed-back the data values.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used both the input data stream and the fed-back data values for "the representative means values" i.e. the result of the comparison so as to represent the envelope value as Budnik teaches that the use of both input data stream and the fed-back data is an art recognized equivalent way to sense the envelope magnitude. Note that it is an obvious consequence that the difference values will be transmitted to the adaptive regulator in the above arrangement, just that this transmission would be indirect.

Applicant's arguments filed 3-4-2005 have been fully considered but they are not persuasive.

Applicant believes that none of the prior art discloses "compensating for any nonlinearity of the transmission amplifier via a predistortion unit for data values in an input data stream, wherein the supply voltage is reduced to an extent to which a quality factor for the compensation for the nonlinearity of the transmission amplifier is increased by the predistortion unit". The examiner respectfully disagrees. First of all the examiner clearly pointed out the feedback path 209 in Budnik to applicant and how the elements 2 and 3 in Budnik are also part of the predistortion arrangement. Applicant has not defined the term "quality factor". In fact the examiner has not been able to find this term anywhere in the original specification. Thus this limitation was taken as a broad limitation. However, as noted above the examiner pointed out the feedback path 209 in Budnik and note the relevant text for this (column 6

Art Unit: 2817

around line 34) clearly recites that this predistortion is "adaptive" thus the "quality factor" will change even during non-linear operation. Also as noted above the continuous feedback applied to elements 2 and 3 would also result in a quality factor that changes during the non-linear operation. Applicant also states that Budnik only monitors the power and not the "quality" of the predistortion. As noted above feedback path 209 monitors more than just power and so does the feedback path applied to elements 2 and 3.

Applicant recites that the Khanifar does not qualify as a reference because of applicant's 119 priority claim to EP 02015954.7. The examiner respectfully disagrees for EP 02015954.7 is not in English and thus applicant has not perfected the claim to priority.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

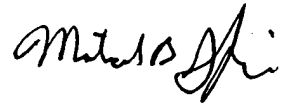
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/622,723
Art Unit: 2817

Page 5

MBS
May 13, 2005

A handwritten signature in black ink, appearing to read "Michael B Shingleton". The signature is written in a cursive, flowing style.

Michael B Shingleton
Primary Examiner
Group Art unit 2817